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THIS JACK IS SAME AS BALL-BEARING RAILWAY JACKS WITH STEEL BASE.

THE MOST CONVENIENT TRAVERSING JACK IN USE.

CAN BE USED WITH HOOK IF DESIRED.

Height.	Rise.	Capacity.	Travels.	Price each.	Discount.
26 in.	12 in.	20 tons	13 in.	$125.00	

ANY SIZE MADE TO ORDER ON SHORT NOTICE AND AT REASONABLE PRICES.

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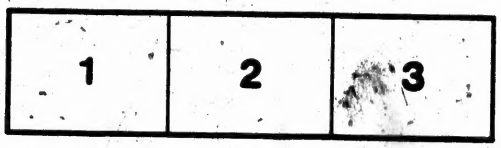
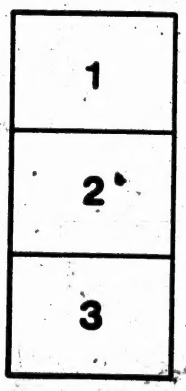
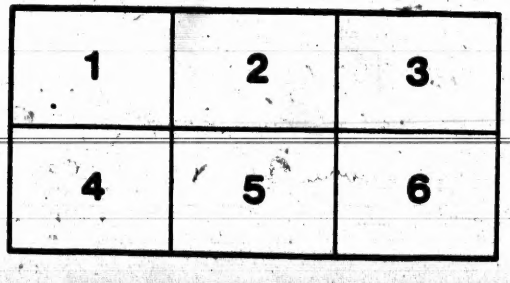






Feb. 10, 1891, for Jos. T. Woodward, Boston, Mass.

TESTS BY COMPRESSION.

Lifting Jacks manufactured by A. O. Norton. No. 7286, Carpenters' and Builders' Jack, **Style G.** 31,800 pounds raised with the lever; 50,000 pounds load applied with the testing machine. Jack in good working condition after test.

Correct. (Signed) J. E. HOWARD. (Signed) A. L. VARNEY,
Capt. Ordnance Dept. U. S. A., Commanding.

These Jacks are made on the same principle as the Railway Jacks, and are *unsurpassed* for all kinds of work.

They are especially adapted in price and quality to the wants of house movers and others using a large number of Jacks for ordinary work, and in all respects suitable for general service.

For raising buildings where the sills are close to the ground, the hook will save all the *digging*, consequently the Jacks can be placed and the building raised with much less labor and expense than with the common Jacks.

PRICE-LIST OF CARPENTERS' AND BUILDERS' JACKS.

Style.	Height.	Raises.	Base.	Weight.	Capacity.	List Price.	Hook Extra.	Discount.
G	22 in.	12 in.	10 in.	80 lbs.	15 tons	$25.00	$5.00	
J	18 in.	8 in.	10 in.	50 lbs.	10 tons	18.00	4.00	
DG	11 in.	6 in.	6 in.	35 lbs.	8 tons	16.00		

Sectional View of Ball-bearing Jack.

W. S. BEST & CO., PRINTERS, 93 FEDERAL ST., BOSTON.

The principle of construction is the same as used in our Railway Jacks, the screw being protected from dust, grit and rust, and the element of danger from flying cranks removed entirely, the screw holding the load positively when raised. The Jacks are light and easily handled, and the points of excellence so valuable in our Railway Jacks are equally important in yard and polishing shop work, or in logging service, or elsewhere, and the form of the Jack is especially fitted for beginning the lift with the foot and continuing it with the head inclined to the work, with ease and convenience.

PRICE-LIST.

Style.	Height over all.	Weight.	Rises.	Capacity.	Price.	Discount.
M	32 in.	100 lbs.	18 in.	15 tons	$75.00	
N	21 in.	60 lbs.	10 in.	8 tons	50.00	

DEAR SIR,—Yours of 22d received. I would say that the Norton Improved Lifting Jack is, in my opinion, the best Lifting Jack I know of. The Little Giant is just the tool railway companies have badly wanted for locomotives and cars.

Yours truly,

EDWARD MAY,

Mechanical Department, I. R.

THE RATHBUN COMPANY.

DESERONTO, ONT., Aug. 23d, 1889.

A. O. NORTON, Esq., Coaticook, Que.:

We have pleasure in stating that we are using a pair of your Ball-bearing Traversing Jacks in our locomotive shops, and find them positive and reliable in work, and as easily operated as Hydraulic Jacks. The Little Giant Jacks are also extremely useful. Our master car builder is well satisfied with the Builders' Jack you sent us.

Yours truly,

THE RATHBUN COMPANY.

real advantages in practice.

INTERNATIONAL RAILWAY COMPANY.

MECHANICAL DEPARTMENT.

SHERBROOKE, July 2d, 1888.

A. O. NORTON, Esq , Coaticook:

DEAR SIR,—I have much pleasure in testifying to the merit and utility of the Norton Jack. I have used two of your Jacks now for six months, and my men will use nothing else if it is possible. Strength and quickness combined, qualities so much required in Jacks, are found in yours, and no getting out of order, and repairing to do just at the time most needed. I trust sincerely and feel quite sure that no auxiliary car will be considered properly equipped without being supplied with your Jacks.

Yours truly,

GRANT HALL,
Mas. Mech. Int'l R'y.

CENTRAL BRIDGE COMPANY.

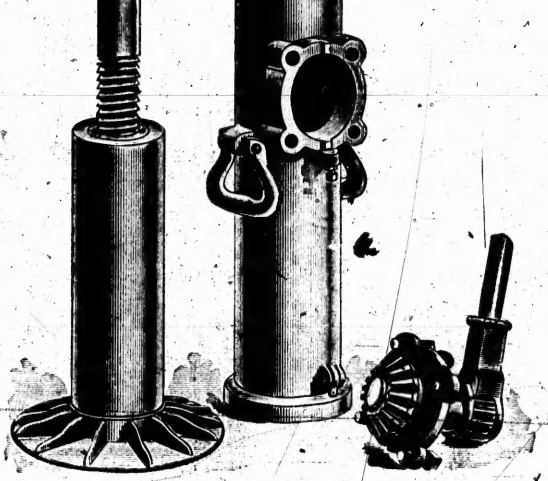
PETERBOROUGH, ONT., July 27th, 1889.

A. O. NORTON, Coaticook, Que.:

Yours of the 19th at hand. Absence has caused delay of reply. I am pleased to say that the Jacks you supplied have been severely tested by us in lifting heavy girders, and are still giving entire satisfaction. If I should require more Jacks, yours will have the preference.

Respectfully yours,

WM. H. LAW, Proprietor.



This Cut shows construction of Carpenters' and Builders' Jacks and Railway Jacks without Ball-bearing.

others.

By PHELPS JOHNSON, *Chief Engineer.*

PRICE-LIST AND DESCRIPTION

—OF—

Railway Jacks Without Ball Bearing.

STYLE K.

Style.	Height.	Raises.	Diameter of Base.	Weight.	Capacity.	Cost.	Extra Price Hook.	Discount.
K	26 in.	14 in.	10 in.	80 lbs.	10 tons	$55.00	$6.00	
K	26 in.	14 in.	10 in.	80 lbs.	15 tons	60.00	6.00	

STYLE L.

Style.	Height.	Raises.	Diameter of Base.	Weight.	Capacity.	Cost.	Extra Price Hock.	Discount.
L	22 in.	12 in.	10 in.	80 lbs.	10 tons	$50.00	$6.00	
L	22 in.	12 in.	10 in.	80 lbs.	15 tons	55.00	6.00	

STYLE O.

Style.	Height.	Raises.	Diameter of Base.	Weight.	Capacity.	Cost.	Extra Price Hook.	Discount.
O	33 in.	20 in.	12 in.	110 lbs.	10 tons	$70.00	$6.00	
O	33 in.	20 in.	12 in.	110 lbs.	15 tons	75.00	6.00	

Styles K, L, and O, are the same as styles A and H, page 5, except the load is supported on head of screw, as shown in Carpenters' and Builders' Jack, on outside of back cover, instead of Ball-bearing.

A. O. Norton, Boston, Mass., U. S. A., Coaticook, P. Q., Canada.

The Little Giant, or Car Inspector's Jack.

Fills a want long felt by Enginemen and Car Repairers.

It will save time enough in a month to pay for itself.

NO RAILWAY CAN AFFORD TO BE WITHOUT THEM.

Time Saved is Money Earned.

Steel and Malleable Iron.

TESTED AS FOLLOWS:

(COPY.)

ORDNANCE DEPARTMENT, U. S. A.

Report of Mechanical Tests made with the U. S. Testing Machine, capacity 800,000 pounds, at Watertown Arsenal, Mass., Feb. 10, 1891, for Jos. T. Woodward. Boston, Mass.

TESTS BY COMPRESSION.

Lifting Jacks manufactured by A. O. Norton. No. 7285, Little Giant 11 in. Jack, **Style D.** 21,800 pounds raised by operating the lever, Jack in good working order after the test.

Correct. (Signed) J. E. HOWARD.

(Signed) A. L. VARNEY,
Capt. Ordnance Dept. U. S. A.

PRICE LIST OF LITTLE GIANT JACKS, STYLE D.

Style.	Height.	Weight.	Diameter of Base.	Raises.	Capacity.	Price.	Discount.
D	11 in.	36 lbs.	6 in.	6 in.	10 tons	$20.00	

This Jack is intended for carrying on locomotives, for putting in brasses, and yard work.

It can be placed almost instantly and works *very rapidly.* The screw being protected, it never gets *rusty* and useless from exposure on the engine, as is so often the case with common Bottle Jacks, **but is always ready for use.**

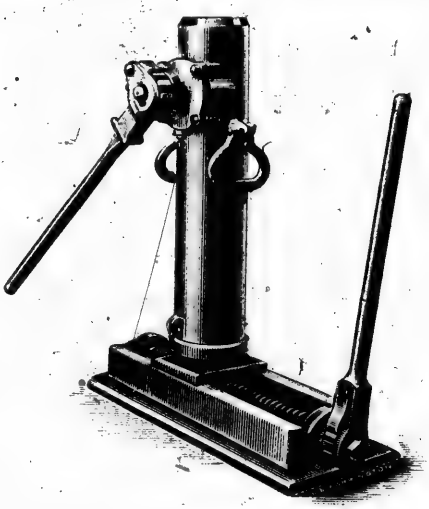
Brasses can be changed *in half the time*, and much easier, than with the old style Jack.

Every engine running, and every car shop, should be supplied with these Jacks.

A. O. Norton, Boston, Mass., U. S. A., Coaticook, P. Q., Canada.

NORTON'S IMPROVED

Ball-Bearing Ratchet Traversing Jack.



THIS JACK IS SAME AS BALL-BEARING RAILWAY JACKS WITH STEEL BASE.

THE MOST CONVENIENT TRAVERSING JACK IN USE.

CAN BE USED WITH HOOK IF DESIRED.

Height.	Rise.	Capacity.	Travels.	Price each.	Discount.
26 in.	12 in.	20 tons	13 in.	$125.00	

ANY SIZE MADE TO ORDER ON SHORT NOTICE AND AT REASONABLE PRICES.

A. O. Norton, Boston, Mass., U. S. A., Coaticook, P. Q., Canada.

THE

NORTON TRACK JACK.

(ROBINSON'S PATENT.)

It is the quickest working Track Jack in the market.

It is easily removed from the track.

It holds the load surely when raised.

It is extremely light and strong.

It always trips positively and drops instantly.

It is simple in construction, durable and economical.

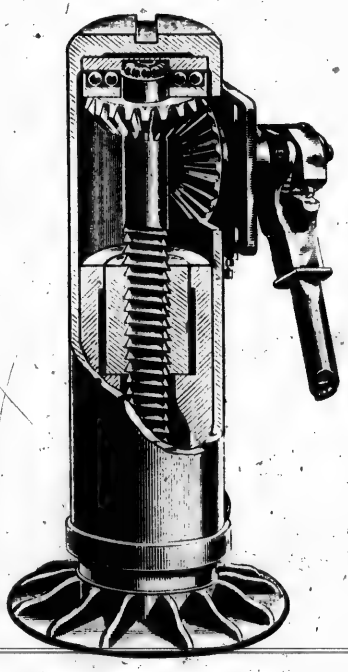
This Jack is offered as combining in the greatest degree possible the essentials suggested above in so great a degree that they fill a need for quick and effective lifting and easy removal from track in Railway work. The frame and working parts are of malleable iron and steel.

Height of Jack when bar is down,	27 inches.
Rise of bar,	16 inches.
Size of bar,	1½ x 1½ inches.
Weight of Jack,	60 lbs.
Capacity,	8 tons.
Price,	$20.00.

-- THE NORTON --

IMPROVED

Ball-Bearing Compound Jacks.



Sectional View of Ball-bearing Jack.

For Railway Use and all kinds of Heavy Lifting.

MANUFACTURED BY

A. O. NORTON,

45 OLIVER STREET,

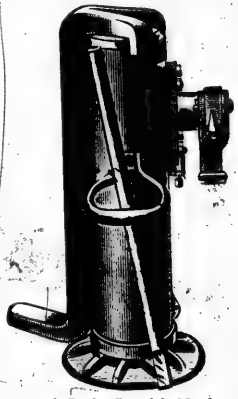
BOSTON, MASS., U. S. A.

COATICOOK, P. Q.,

CANADA.

W. S. BEST & CO., PRINTERS, 93 FEDERAL ST., BOSTON.

A. O. Norton, Boston, Mass., U. S. A., Coaticook, P. Q., Canada.



Cut of Style G, with Hook.

Carpenters' and Builders' Jacks.

STEEL SCREWS, GEARS AND RATCHETS.

Cast Iron Shell and Standard.

THE

CHEAPEST RATCHET JACK

IN THE WORLD.

Capacity Guaranteed.

Cut of Style J, without Hook.

TEST OF STYLE G.

(COPY.)

ORDNANCE DEPARTMENT, U. S. A.

Report of Mechanical tests made with the United States Testing Machine, capacity 800,000 pounds, at Watertown Arsenal, Mass., Feb. 10, 1891, for Jos. T. Woodward, Boston, Mass.

TESTS BY COMPRESSION.

Lifting Jacks manufactured by A. O. Norton. No. 7286, Carpenters' and Builders' Jack, **Style G.** 31,800 pounds raised with the lever; 50,000 pounds load applied with the testing machine. Jack in good working condition after test.

Correct. (Signed) J. E. HOWARD. (Signed) A. L. VARNEY,
Capt. Ordnance Dept. U. S. A., Commanding.

These Jacks are made on the same principle as the Railway Jacks, and are *unsurpassed* for all kinds of work.

They are especially adapted in price and quality to the wants of house movers and others using a large number of Jacks for ordinary work, and in all respects suitable for general service.

For raising buildings where the sills are close to the ground, the hook will save all the *digging*, consequently the Jacks can be placed and the building raised with much less labor and expense than with the common Jacks.

PRICE-LIST OF CARPENTERS' AND BUILDERS' JACKS.

Style.	Height.	Raises.	Base.	Weight.	Capacity.	List Price.	Hook Extra.	Discount.
G	22 in.	12 in.	10 in.	80 lbs.	15 tons	$25.00	$5.00	
J	18 in.	8 in.	10 in.	50 lbs.	10 tons	18.00	4.00	
DG	11 in.	6 in.	6 in.	35 lbs.	8 tons	16.00		

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The Norton Improved Lifting Jacks.

THE

GREATEST LABOR-SAVING INVENTION OF THE AGE IN LIFTING JACKS

IS THE

NORTON IMPROVED COMPOUND JACK.

In introducing the above Jacks, we would briefly call attention to a few of the many advantages they possess over any other Jacks now in use, especially for Railway or heavy work.

They combine the three greatest powers known in Mechanical Science, the **Lever, Screw** and **Gears,** with the three greatest elements of success, **Simplicity, Durability** and **Cheapness.**

The superiority of the Screw over any other method for lifting, and especially lowering, heavy weights, is too well known to require comment here.

The Norton Jacks are **Screw Jacks,** operated with a Ratchet Lever, having the up and down or "Pump Handle" motion, found so convenient in Hydraulic Jacks. They are all constructed with patent Safety Stop Motion, preventing injury to Jack or load by running the screw out of the nut.

For *lightness, speed, safety, ease in operating, cheapness, durability and general utility* they stand without a *rival.*

The Norton Ball-bearing Jacks are sold at prices much below the Hydraulic, with which they successfully compete for heavy work in locomotive shops and bridge building; and without Ball-bearing, at so nearly the cost of the ordinary Screw Jack that when their value and convenience are compared with these, true economy is greatly in favor of their purchase and use, as indicated by the following suggestions, which do not overstate their real advantages in practice.

COMPARISON

OF THE

Hydraulic with the Norton Jack.

The Hydraulic is expensive; the Norton cheap.

The Hydraulic is heavy; the Norton light.

The Hydraulic requires constant care and frequent repairs, expense for alcohol and experienced mechanics to work it. The Norton no special care or repairs, no alcohol, and is safe for use by unskilled men.

The Hydraulic is of delicate mechanism and often needs new valves and packing, is frequently out of order when most needed, so unsafe that its load must be carefully protected by blocks in raising and especially in lowering.

The Norton is a Screw Jack, without valves or packing to fail. Cannot get out of order, positive, as the screw will not run down or crush under nearly twice its rated load, and will raise or lower or hold its load with perfect safety; lowering evenly, without shock, jar or strain, when two or more are operated together by ordinary workmen.

The Hydraulic supports its load on a small bar; the Norton by construction upon standard and shell, forming practically a column several inches in diameter.

The Hydraulic is made specially for upright or horizontal lifting, as may be required. **The Norton will lift on any angle, or bottom upward, or work equally well laid flat for pushing.**

The Hydraulic reduces the loss of power by friction, by its devices; **the Norton, by a system of steel balls and plates very nearly removes it, and effectually prevents all the seizing, cutting or grinding so common in ordinary screw jacks.**

In short, the Norton has all the advantages, with none of the disadvantages of the Hydraulic Jack, at about ***half the cost.***

COMPARISON OF COMMON SCREW JACK

—WITH THE—

NORTON JACK.

The common Screw Jack must have a large screw to support its load; the Norton does this by a standard and shell, fully supporting a small, easily-working screw.

When the screw of the common Jack is well run out, heavily loaded, being unsupported, it is liable to bending or "upsetting," or stripping the threads, thereby rendering it useless. With the Norton Jack this cannot occur, the shell taking all the side strain and also preventing all injury to the screw.

The screw of the common Jack, exposed to gases, dirt and grit, and the action of the weather, is soon destroyed by wear and corrosion, while the Norton is so enclosed by the shell that it cannot be spoiled by grit or rust, and remains for months without care, ready for instant use.

The common Screw Jack requires continual changes of levers in use, their position is awkward, and the screw runs up slowly; while the Norton is quickly set in place, operated rapidly and easily, making a great saving in time and money.

The common Screw Jack requires considerable space horizontally to work the levers; the Norton will work nicely in extremely small spaces, where the common Jack cannot be used, and on any side,—a great object in shop or car work.

The common Screw Jack often requires digging to set it properly in outside work; the Norton, with its movable hook, lifts from the ground with ease and safety, and the needless weight and awkwardness of cast hook on shell is obviated.

The common Screw Jack is ordinarily of poor material and workmanship, made to sell cheap, but dear at any price; the Norton is well made, of good stock, with working parts of steel and malleable iron; sound, useful and economical at the moderate price charged.

A. O. Norton, Boston, Mass., U. S. A., Coaticook, P. Q., Canada.

Norton's Improved Railway Jacks.

IMPORTANT TO RAILWAY MEN.

Your attention is called to *the exceedingly low List Prices* at which the Ball-bearing Jacks are placed.

They are made of the best malleable iron, with steel gears and phosphor bronze nuts, and the balls and bearing plates and all other parts are of the best material and workmanship.

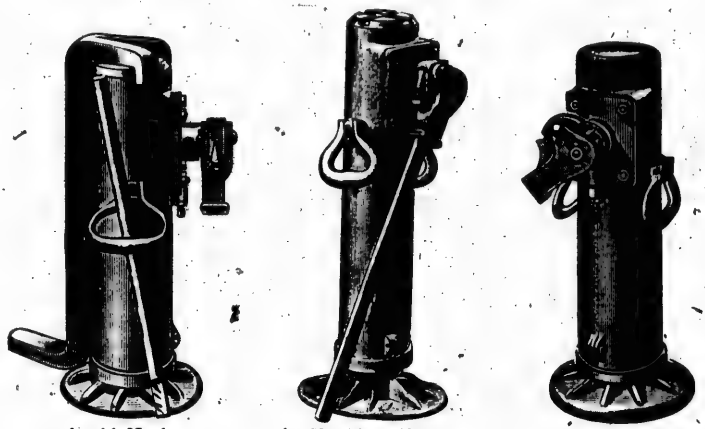
They do any and all work that can be done by Hydraulic Jacks, and as easily; without expense for alcohol or repairs, and are readily operated and perfectly safe even in the hands of unskilled men.

Each part is interchangeable, and in case of breakage can be replaced at trifling cost, while their price is much less than that of Hydraulics.

Our Railway Jacks, without ball-bearing, which have been in use on the Canadian Pacific Railway for the past three years (see testimonial), are made of same material as the Ball-bearing, and are much cheaper. In fact, *they are the cheapest Ratchet Jacks in the world*, being no dearer than the old-fashioned Screw Jack of the same material and capacity.

At the same time, one man can do more work, and do it easier with the Norton Jack, than two with the Screw or Bottle Jack.

These extremely low prices are made as an inducement to Railway Companies, in full confidence that when once tested in practical work, the saving of time and labor will be so apparent, that in every branch of their service where Jacks are required, the Norton Jack will be specified and used in preference to others.



A with Hook. H without Hook. A without Hook.

CUT OF BALL-BEARING RAILWAY JACKS.

STYLES A AND H.

TESTED AS GIVEN BELOW.

TESTING LABORATORY, LACHINE, P. Q., March 15th, 1889.

MR. A. O. NORTON, Coaticook, P. Q.:

Dear Sir,—Below please find report of test applied March 6th, on one of your Lifting Jacks:

"Lifting Jack 26 in. high, 10 in. base; 1½ in. screw buttress thread; ¼ in. Pitch, Worked by a lever 2 ft. 4 in. long, and mitre gears. Top bearing 32 half inch friction balls, cast steel polished; bearing plates, tempered steel. Mr. Norton lifted 40,000 pounds. He and a helper lifted 50,000 pounds, which was considered the limit of the Jack. No apparent injury to any part, except very slight indentations due to balls, which may have existed previously. Loaded on top not on hook."

DOMINION BRIDGE CO., LTD.,

By PHELPS JOHNSON, *Chief Engineer.*

(COPY.)

ORDNANCE DEPARTMENT, U. S. A.

Report of Mechanical Tests made with the U. S. Testing Machine, capacity 800,000 pounds, at Watertown Arsenal, Mass., Feb. 10, 1891, for Joseph T. Woodward, Boston, Mass.

TESTS BY COMPRESSION.

Lifting Jacks manufactured by A. O. Norton. No. 7283 Ball-bearing Railroad 26 in. Jack, **Style A,** 50,400 pounds were raised by operating the lever. The Jack was then removed from the testing machine, examined, and found in good working condition. Returned to the testing machine and loaded, increasing the pressure with the machine to 240,000 pounds total. Nut disabled. Ball-bearing in good working condition.

Correct.

(Signed) J. E. HOWARD. (Signed) A. L. VARNEY,
Capt. Ordnance Dept. U. S. A., Commanding.

PRICE-LIST OF BALL-BEARING JACKS.

STYLE A. 20 AND 25 TONS.

Style.	Height.	Raises.	Diameter of Base.	Weight.	Capacity.	Cost Price.	Extra Price Hook.	Discount.
A	26 in.	14 in.	10 in.	90 lbs.	20 tons	$80.00	$6.00	
A	26 in.	14 in.	10 in.	90 lbs.	25 tons	90.00	6.00	

STYLE B. 20 AND 25 TONS.

Style.	Height.	Rises.	Diameter of Base.	Weight.	Capacity.	Cost Price.	Extra Price Hook.	Diameter-
B	22 in.	12 in.	10 in.	80 lbs.	20 tons	$75.00	$6.00	
B	22 in.	12 in.	10 in.	80 lbs.	25 tons	80.00	6.00	

STYLE H. 20 AND 25 TONS.

Style.	Height.	Rise.	Base-Diameter.	Weight.	Capacity.	Cost.	Hook Extra.	Discount.
H	33 in.	20 in.	12 in.	110 lbs.	20 tons	$90.00	$6.00	
H	33 in.	20 in.	12 in.	110 lbs.	25 tons	95.00	6.00	

A. O. Norton, Boston, Mass., U. S. A., Coaticook, P. Q., Canada.

CUT OF BALL-BEARING JACK.—STYLE C.

TESTED AS FOLLOWS:

(COPY).

ORDNANCE DEPARTMENT, U. S. A.

Report of Mechanical Tests made with the U. S. Testing Machine, capacity 800,000 pounds, at Watertown Arsenal, Mass., April 30, 1891, for A. O. Norton, Boston, Mass.

TESTS BY COMPRESSION.

Lifting Jack No. 7431, Ball-bearing Railroad 35 Tons Screw Jack, **Style C.** 70,000 pounds were raised by operating the lever. Jack was then removed from the testing machine, opened and examined and found in good working order, again placed in the testing machine and loaded with 100,000 pounds, held and released after about five minutes, the Jack then removed from the testing machine, opened and examined and found in good working order as before.

Correct. (Signed) J. E. HOWARD. (Signed) A. L. VARNEY,
Capt. Ordnance Dept. U. S. A., Commanding.

PRICE-LIST OF BALL-BEARING JACKS, STYLE C, 35 TONS.

Style.	Height.	Rises.	Base Diameter.	Weight.	Capacity.	Cost.	Hook Extra.	Discount.
C	31 in.	18 in.	12 in.	190 lbs.	35 tons	$160.00	$8.00	

PRICE-LIST AND DESCRIPTION

—OF—

Railway Jacks. Without Ball Bearing.

STYLE K.

Style.	Height.	Raises.	Diameter of Base.	Weight.	Capacity.	Cost.	Extra Price Hook.	Discount.
K	26 in.	14 in.	10 in.	80 lbs.	10 tons	$55.00	$6.00	
K	26 in.	14 in.	10 in.	80 lbs.	15 tons	60.00	6.00	

STYLE L.

Style.	Height.	Raises.	Diameter of Base.	Weight.	Capacity.	Cost.	Extra Price Hock.	Discount.
L	22 in.	12 in.	10 in.	80 lbs.	10 tons	$50.00	$6.00	
L	22 in.	12 in.	10 in.	80 lbs.	15 tons	55.00	6.00	

STYLE O.

Style.	Height.	Raises.	Diameter of Base.	Weight.	Capacity.	Cost.	Extra Price Hook.	Discount.
O	33 in.	20 in.	12 in.	110 lbs.	10 tons	$70.00	$6.00	
O	33 in.	20 in.	12 in.	110 lbs.	15 tons	75.00	6.00	

Styles K, L, and O, are the same as styles A and H, page 5, except the load is supported on head of screw, as shown in Carpenters' and Builders' Jack, on outside of back cover, instead of Ball-bearing.

A. O. Norton, Boston, Mass., U. S. A., Coaticook, P. Q., Canada.

The Little Giant, or Car Inspector's Jack.

Fills a want long felt by Enginemen and Car Repairers.

It will save time enough in a month to pay for itself.

NO RAILWAY CAN AFFORD TO BE WITHOUT THEM.

Time Saved is Money Earned.

Steel and Malleable Iron.

TESTED AS FOLLOWS:

(COPY.)

ORDNANCE DEPARTMENT, U. S. A.

Report of Mechanical Tests made with the U. S. Testing Machine, capacity 800,000 pounds, at Watertown Arsenal, Mass., Feb. 10, 1891, for Jos. T. Woodward. Boston, Mass.

TESTS BY COMPRESSION.

Lifting Jacks manufactured by A. O. Norton. No. 7285, Little Giant 11 in. Jack, **Style D.** 21,800 pounds raised by operating the lever, Jack in good working order after the test.

Correct. (Signed) J. E. HOWARD. (Signed) A. L. VARNEY, Capt. Ordnance Dept. U. S. A.

PRICE LIST OF LITTLE GIANT JACKS, STYLE D.

Style.	Height.	Weight.	Diameter of Base.	Raises.	Capacity.	Price.	Discount.
D	11 in.	36 lbs.	6 in.	6 in.	10 tons	$20.00	

This Jack is intended for carrying on locomotives, for putting in brasses, and yard work.

It can be placed almost instantly and works *very rapidly*. The screw being protected, it never gets *rusty* and useless from exposure on the engine, as is so often the case with common Bottle Jacks, **but is always ready for use.**

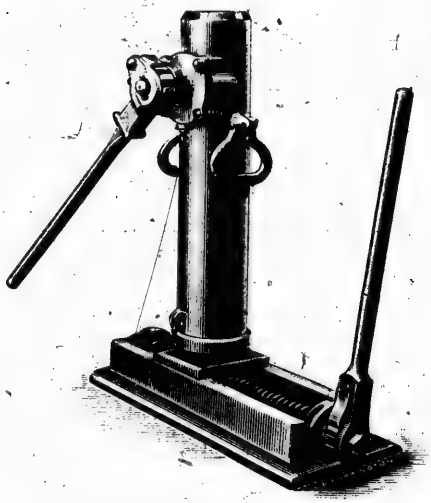
Brasses can be changed *in half the time*, and much easier, than with the old style Jack.

Every engine running, and every car shop, should be supplied with these Jacks.

A. O. Norton, Boston, Mass., U. S. A., Coaticook, P. Q., Canada.

NORTON'S IMPROVED

Ball-Bearing Ratchet Traversing Jack.



THIS JACK IS SAME AS BALL-BEARING RAILWAY JACKS WITH STEEL BASE.

THE MOST CONVENIENT TRAVERSING JACK IN USE.

CAN BE USED WITH HOOK IF DESIRED.

Height.	Rise.	Capacity.	Travels.	Price each.	Discount.
26 in.	12 in.	20 tons	13 in.	$125.00	

ANY SIZE MADE TO ORDER ON SHORT NOTICE AND AT REASONABLE PRICES.

A. O. Norton, Boston, Mass., U. S. A., Coaticook, P. Q., Canada.

Norton's 50 Ton Ball-Bearing Bridge Jack.

They have no Equal for Safety.

The Best is the Cheapest.

Cut showing Ball-bearing 50 ton Bridge Jack.
Tested to 75 tons direct pressure.

These Jacks are very strong, being made of steel throughout, except the nut in standard, which is of best phosphor bronze, and are especially adapted to very heavy work.

Style.	Height over all.	Raises.	Weight.	List Price.	Discount.
C	21½ in.	10 in.	150 lbs.	$175.00	

A. O. Norton, Boston, Mass., U. S. A., Coaticook, P. Q., Canada.

THE

NORTON TRACK JACK.

(ROBINSON'S PATENT.)

It is the quickest working Track Jack in the market.

It holds the load surely when raised.

It always trips positively and drops instantly.

It is easily removed from the track.

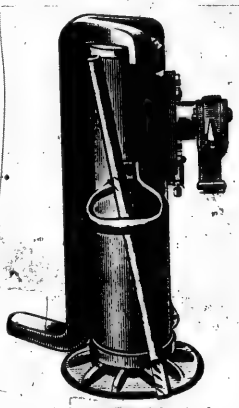
It is extremely light and strong.

It is simple in construction, durable and economical.

This Jack is offered as combining in the greatest degree possible the essentials suggested above in so great a degree that they fill a need for quick and effective lifting and easy removal from track in Railway work. The frame and working parts are of malleable iron and steel.

Height of Jack when bar is down,	27 inches.
Rise of bar,	16 inches.
Size of bar,	1½ x 1½ inches.
Weight of Jack,	60 lbs.
Capacity,	8 tons.
Price,	$20.00.

A. O. Norton, Boston, Mass., U. S. A., Coaticook, P. Q., Canada.



Carpenters' and Builders' Jacks.

STEEL SCREWS, GEARS AND RATCHETS.

Cast Iron Shell and Standard.

THE

CHEAPEST RATCHET JACK

IN THE WORLD.

Capacity Guaranteed.

Cut of Style G, with Hook. *Cut of Style J, without Hook.*

TEST OF STYLE G.

(COPY.)

ORDNANCE DEPARTMENT, U. S. A.

Report of Mechanical tests made with the United States Testing Machine, capacity 800,000 pounds, at Watertown Arsenal, Mass., Feb. 10, 1891, for Jos. T. Woodward, Boston, Mass.

TESTS BY COMPRESSION.

Lifting Jacks manufactured by A. O. Norton. No. 7286, Carpenters' and Builders' Jack, **Style G.** 31,800 pounds raised with the lever; 50,000 pounds load applied with the testing machine. Jack in good working condition after test.

Correct. (Signed) J. E. HOWARD. (Signed) A. L. VARNEY,
Capt. Ordnance Dept. U. S. A., Commanding.

These Jacks are made on the same principle as the Railway Jacks, and are *unsurpassed* for all kinds of work.

They are especially adapted in price and quality to the wants of house movers and others using a large number of Jacks for ordinary work, and in all respects suitable for general service.

For raising buildings where the sills are close to the ground, the hook will save all the *digging*, consequently the Jacks can be placed and the building raised with much less labor and expense than with the common Jacks.

PRICE-LIST OF CARPENTERS' AND BUILDERS' JACKS.

Style.	Height.	Raises.	Base.	Weight.	Capacity.	List Price.	Hook Extra.	Discount.
G	22 in.	12 in.	10 in.	80 lbs.	15 tons	$25.00	$5.00	
J	18 in.	8 in.	10 in.	50 lbs.	10 tons	18.00	4.00	
DG	11 in.	6 in.	6 in.	35 lbs.	8 tons	16.00		

A. O. Norton, Boston, Mass., U. S. A., Coaticook, P. Q., Canada.

The Norton Stone and Logging Jack.

Light and Durable.

CONVENIENT

—TO—

OPERATE.

In Sizes to Suit.

Reasonable in Price.

ALWAYS READY,

SAFE,

AND EFFECTIVE.

In Power to Satisfy.

The principle of construction is the same as used in our Railway Jacks, the screw being protected from dust, grit and rust, and the element of danger from flying cranks removed entirely, the screw holding the load positively when raised. The Jacks are light and easily handled, and the points of excellence so valuable in our Railway Jacks are equally important in yard and polishing shop work, or in logging service, or elsewhere, and the form of the Jack is especially fitted for beginning the lift with the foot and continuing it with the head inclined to the work, with ease and convenience.

PRICE-LIST.

Style.	Height over all.	Weight.	Rises.	Capacity.	Price.	Discount.
M	32 in.	100 lbs.	18 in.	15 tons	$75.00	
N	21 in.	60 lbs.	10 in.	8 tons	50.00	

TESTIMONIALS.

CANADIAN PACIFIC RAILWAY COMPANY.

OFFICE OF THE MECHANICAL SUPERINTENDENT.

MONTREAL, Aug. 27, 1888.

A. O. NORTON, Esq., Coaticook, P. Q.:

DEAR SIR,—Referring to yours of the 24th inst., I have thoroughly tested the Norton Lifting Jacks, and find them very satisfactory.

Yours truly,

FRANCIS R. P. BROWN,
Mechanical Superintendent.

Edward May, Esq., for many years in Mechanical Department of the Grand Trunk Railway, and General Foreman of Locomotive Department of Canadian Pacific road, and now on Mechanical Staff of the Intercolonial Railway, after three years' continuous use of the Norton Jacks, writes as follows:

MONCKTON, N. B., Oct. 27. 1890.

A. O. NORTON, Esq.:

DEAR SIR,—Yours of 22d received. I would say that the Norton Improved Lifting Jack is, in my opinion, the best Lifting Jack I know of. The Little Giant is just the tool railway companies have badly wanted for locomotives and cars.

Yours truly,

EDWARD MAY,
Mechanical Department, I. R.

THE RATHBUN COMPANY.

DESERONTO, ONT., Aug. 23d, 1889.

A. O. NORTON, Esq., Coaticook, Que.:

We have pleasure in stating that we are using a pair of your Ball-bearing Traversing Jacks in our locomotive shops, and find them positive and reliable in work, and as easily operated as Hydraulic Jacks. The Little Giant Jacks are also extremely useful. Our master car builder is well satisfied with the Builders' Jack you sent us.

Yours truly,

THE RATHBUN COMPANY.

TESTIMONIALS.

KINGSTON & PEMBROKE RAILWAY.

SUPERINTENDENT'S OFFICE, KINGSTON, ONT., July 24th, 1889.

A. O NORTON, Esq., Coaticook, P. Q.:

DEAR SIR,—In reply to your inquiry, would say that the Ball-bearing Jacks we got from you last winter are giving every satisfaction.

Yours truly,

J. H. TAYLOR, Superintendent.

QUEBEC & LAKE ST. JOHN RAILWAY.

LAKE EDWARD, P. Q., Aug. 30, 1888.

A. O. NORTON, Esq.:

DEAR SIR,—I have had much experience with different kinds of Jacks, both in the States and in Canada, but the Norton is the best yet that has come under my notice. Follow instructions and they are serviceable, quick, strong and easily moved around. To any one requiring a good Jack, I can cheerfully recommend them.

Yours truly,

F. ROTHWELL, M. M.

Construction Dept. Q. & L. St. John R'y.

INTERNATIONAL RAILWAY COMPANY.

MECHANICAL DEPARTMENT.

SHERBROOKE, July 2d, 1888.

A. O. NORTON, Esq , Coaticook:

DEAR SIR,—I have much pleasure in testifying to the merit and utility of the Norton Jack. I have used two of your Jacks now for six months, and my men will use nothing else if it is possible. Strength and quickness combined, qualities so much required in Jacks, are found in yours, and no getting out of order, and repairing to do just at the time most needed. I trust sincerely and feel quite sure that no auxiliary car will be considered properly equipped without being supplied with your Jacks.

Yours truly,

GRANT HALL,
Mas. Mech. Int'l R'y.

CENTRAL BRIDGE COMPANY.

PETERBOROUGH, ONT., July 27th, 1889.

A. O. NORTON, Coaticook, Que.:

Yours of the 19th at hand. Absence has caused delay of reply. I am pleased to say that the Jacks you supplied have been severely tested by us in lifting heavy girders, and are still giving entire satisfaction. If I should require more Jacks, yours will have the preference.

Respectfully yours,

WM. H. LAW, Proprietor.

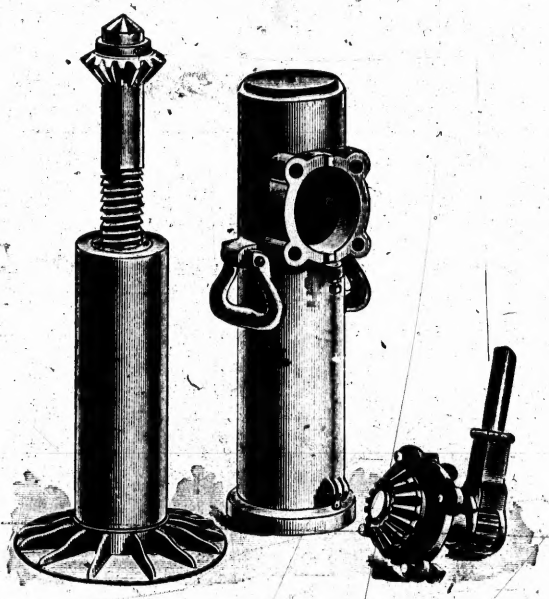
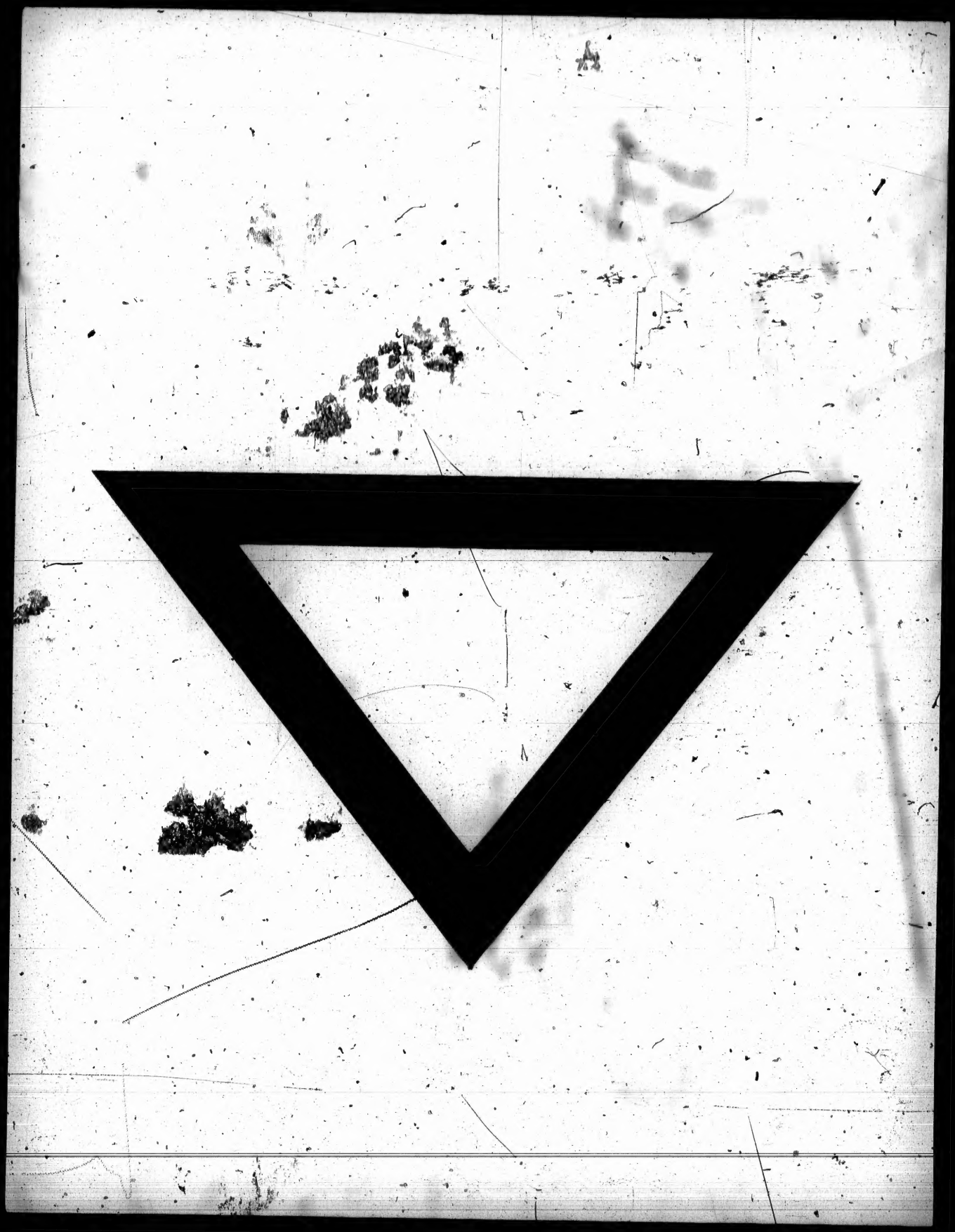
HIGHEST PRIZE GRANTED IN ITS CLASS

—BY THE—

MASSACHUSETTS MECHANICS' CHARITABLE ASSOCIATION,

—AT THEIR—

17th Exhibition, held in Boston, October and November, 1890.



This Cut shows construction of Carpenters' and Builders' Jacks and Railway Jacks without Ball-bearing.